

In the Claims:

Please cancel claims 1 to 14 and add claims 15 to 33 as follows:

15. A method for operating an internal combustion engine including an engine for a motor vehicle, the method comprising the steps of:

directing fuel into a combustion chamber of said engine and
5 combusting said fuel therein;

drawing a conclusion as to deposits in said combustion chamber from at least monitoring the effects of a cylinder equalization; and,

thereafter initiating measures in a targeted manner for
10 cleansing said combustion chamber.

16. The method of claim 15, comprising at least one of the following further steps of:

bringing about a knocking combustion to cleanse said combustion chamber; and,

5 adding a cleansing or detergent liquid to combustion air inducted by said engine.

17. The method of claim 16, wherein said cleansing liquid is water.

18. The method of claim 16, wherein said measures are conducted for a predetermined time duration.

19. The method of claim 16, wherein said measures for cleansing said combustion chamber are carried out so long until no deposits are detected in said combustion chamber.

20. The method of claim 19, wherein said measures for cleansing said combustion chamber are carried out only so long as no damage to said engine is to be expected.

21. The method of claim 15, wherein said measures for cleansing said combustion chamber are carried out as a precaution at predetermined time intervals for a predetermined time duration.

22. The method of claim 15 in combination with a direct-injecting engine, wherein said method comprises the further steps of:

5 directly injecting fuel into the combustion chambers of said engine with the aid of injection valves in a first operating mode during an induction phase or in a second operating mode during a compression phase;

continuously carrying out a misfire detection;

10 when detecting misfires during operation of said engine in said first operating mode, then switching over into the second operating mode; and,

when misfires also occur in the second operating mode,
drawing a conclusion as to a general fault and starting
additional diagnostic methods for narrowing down the fault
15 causes.

23. The method of claim 15, wherein said engine is a diesel
engine.

24. A method for operating a direct-injecting internal
combustion engine including an internal combustion engine of a
motor vehicle, the method comprising the steps of:

5 directly injecting fuel into the combustion chambers of
said engine with the aid of injection valves in a first operating
mode during an induction phase or in a second operating mode
during a compression phase;

continuously carrying out at least one of a cylinder
equalization with monitoring of effects and a misfire detection;
10 drawing a conclusion as to the coking of the injection
valves when a fault signal of said monitoring of effects is
present or, when detecting a misfire during operation of said
engine in said first operating mode, switching over to said
second operating mode; and,

15 when no misfire occurs in said second operating mode,
drawing a conclusion as to deposits on the nozzles of said
injection valves or a coking of said injection valves.

25. The method of claim 24, comprising at least one of the following further steps of:

bringing about a knocking combustion to cleanse said combustion chamber; and,

5 adding a cleansing or detergent liquid to combustion air inducted by said engine.

26. The method of claim 25, wherein said cleansing liquid is water.

27. The method of claim 25, wherein said measures are conducted for a predetermined time duration.

28. The method of claim 25, wherein said measures for cleansing said combustion chamber are carried out so long until no deposits are detected in said combustion chamber.

29. The method of claim 28, wherein said measures for cleansing said combustion chamber are carried out only so long as no damage to said engine is to be expected.

30. The method of claim 24, wherein said measures for cleansing said combustion chamber are carried out as a precaution at predetermined time intervals for a predetermined time duration.

31. A computer program comprising:

program-code means for carrying out a method for operating
an internal combustion engine when executed on a computer, the
5 method including the steps of:

directing fuel into a combustion chamber of said engine and
combusting said fuel therein;

drawing a conclusion as to deposits in said combustion
chamber from at least monitoring the effects of a cylinder
10 equalization; and,

thereafter initiating measures in a targeted manner for
cleansing said combustion chamber.

32. A control apparatus for operating an internal combustion
engine including an internal combustion engine of a motor
vehicle, the control apparatus comprising:

means for controlling the supply of fuel into a combustion
5 chamber of said engine and combusting said fuel therein;

means for drawing a conclusion as to deposits in said
combustion chamber from at least monitoring the effects of a
cylinder equalization; and,

means for initiating measures in a targeted manner for
10 cleansing said combustion chamber.

33. An internal combustion engine including an engine for a
motor vehicle, the internal combustion engine comprising:

a cylinder and a piston conjointly defining a combustion
5 chamber;

means for metering fuel to said combustion chamber; and,

a control apparatus functioning to: control the metering of
fuel into a combustion chamber of said engine and combusting said
fuel therein; draw a conclusion as to deposits in said combustion
10 chamber from at least monitoring the effects of a cylinder
equalization; and, thereafter initiate measures in a targeted
manner for cleansing said combustion chamber.